CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: 12/18/2020

TO: Sarah Donoughe – NER

FROM: Nicole Krueger – SER Nicole Krueger

SUBJECT: Technology-Based Effluent Limitations for Agropur Inc Luxemburg
WPDES Permit No. WI-0050237-09

Technology-Based Effluent Limitations (TBELs) Recommended for Outfall 009:

Parameter	Daily Maximum	Daily Minimum	Monthly Average
BOD_5, Total	158 lbs/day		79 lbs/day
TSS	201 lbs/day		100 lbs/day
pH	9.0 su	6.0 su	

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PART 1 – BACKGROUND INFORMATION

Agropur Inc in Luxemburg operates a cheese manufacturing and whey processing facility in southern Kewaunee County.

PART 2 – INDUSTRIAL CATEGORIES

Chapter NR 240, Wis. Adm. Code, specifies effluent guidelines for discharges from dairy product categories of point sources and subcategories. Agropur would fall under the "Natural and Processed Cheese", "Condensed Whey" and "Dry Whey" subcategories as defined in s. NR 240.02, Wis. Adm. Code. These guidelines are based on federal effluent guidelines in 40 CFR Part 405 Subparts F, K, and L. The permittee must meet the applicable effluent limit guidelines as described in this chapter. These effluent limit guidelines include:

- Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) in s. NR 240.10, Wis. Adm. Code.
- Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT) in s. NR 240.11, Wis. Adm. Code.
- If determined to be a new source, new source performance standards (NSPS) in s. NR 240.12, Wis. Adm. Code.

If the calculated limits are less than or equal to the limits in the current permit, then the limits would remain the same or become more restrictive. If the calculated limits are less restrictive than the limits from the current permit, they cannot be increased unless the permittee requests increased limits and they meet the antidegradation and anti-backsliding provisions of ch. NR 207, Wis. Adm. Code.

Section NR 220.13, Wis. Adm. Code, includes provisions that address cases where federal and state rule differ. Section 283.11, Wis. Stats., address compliance with federal standards. In this case, the state rules are consistent with federal rules with a few exceptions. In such cases, the permit will in all cases be based on the state rule notwithstanding the federal regulations. The omissions are described below.

- The state or federal rules do not specify a date for the definition for a new source. Therefore, it is necessary to review available federal guidance. The Boornazian memo (September 28, 2006) specifies a new source date for 40 CFR Part 405 Subparts A – L of May 28, 1974. The Department relies on the Boornazian memo to establish date of applicability for NSPS.
- State rules incorrectly list best available treatment (BAT) standards for BOD, TSS, and pH. BAT applies to priority pollutants and nonconventional pollutants and does not apply to such conventional pollutants.
- The federal standard rule lists revised BCT standards requirements. All BCT limitations are set to be the same as the best practicable control technology (BPT) standards. State rules in ch. NR 240, Wis. Adm. Code, do not list standards for BCT.

PART 3 – LEVELS OF CONTROL

All production processes had construction commenced after May 28, 1974. Therefore, the process wastewater from these lines is subject to BPT, BCT, BAT and NSPS standards for the "Natural and

Processed Cheese", "Condensed Whey" and "Dry Whey" subcategories are applicable as specified in 40 CFR Part 405 Subparts F, K, and L and ch. NR 240.12, Wis. Adm. Code.

PART 4 – CURRENT PRODUCTION LEVELS

The current levels of production for each Subcategory are provided by Agropur.

Natural and Processed Cheese

Process	Material Used (lbs/day)
Cheese Production	3,135,000

Whey

Process	Material Used (lbs/day)
Reverse Osmosis	3,027,000
Evaporator	1,500,000
Drier	420,000

PART 5 – BOD INPUT

The BOD_5 input is the 5-day biochemical oxygen demand of raw materials that enter the process. The current production levels in Part 4 are converted to BOD input equivalents by multiplying the amount of raw material by BOD factors specified in s. NR 240.03(1) or s. NR 240.07 Wis. Adm. Code and 40 CFR Part 405.

Process	Material Used (lbs/day)	BOD Factor[1] (lbs/100 lbs)	Adjusted Total BOD Input[2] (lbs/day)
Cheese Production	3,135,000	10.39	325,727
Total			**325,727**
Reverse Osmosis	3,027,000	4.72	142,874
Evaporator	1,500,000	4.72	70,800
Drier	420,000	65.07	273,2949
Total			**486,968**

Footnotes:

1. The BOD Factors are listed in ch. NR 240.07 Wis. Adm. Code, Table 1 for generally accepted published values for protein, fat, and carbohydrate content.
2. Adjusted BOD input = BOD input * BOD factor / 100

PART 6 – TBEL CALCULATIONS

pH
Any discharge subject to BPT, BCT, or NSPS limitations or standards in this part must remain within the pH range of 6.0 to 9.0.

New Source Performance Standards (NSPS)
The cheese production processes commenced construction after May 28th, 1974. Therefore, the NSPS limitations of 40 CFR Part 405.65 would apply.

Total BOD Input (lbs/day)	NSPS Effluent Limitations				Calculated Limits			
	BOD (lbs/1,000 lbs)		TSS (lbs/1,000 lbs)		BOD (lbs/day)[1]		TSS (lbs/day)[1]	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
325,727	0.08	0.16	0.10	0.20	26	52	33	65

Footnotes:
1. The limits (lbs/day) = total BOD input (lbs/day) / 1000 * NSPS limitations

The reverse osmosis and evaporator processes for whey production commenced construction after May 28th, 1974. Therefore, the NSPS limitations of 40 CFR Part 405.115 and 405.125 would apply.

Total BOD Input (lbs/day)	NSPS Effluent Limitations				Calculated Limits			
	BOD (lbs/1,000 lbs)		TSS (lbs/1,000 lbs)		BOD (lbs/day)[1]		TSS (lbs/day)[1]	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
486,968	0.11	0.22	0.14	0.28	54	107	68	136

Footnotes:
1. The limits (lbs/day) = total BOD input (lbs/day) / 1000 * NSPS limitations

PART 7 – FINAL CALCULATED LIMITS

Per s. NR 240.06(4) Wis. Adm. Code, the total discharge limits shall be the total of the amounts calculated from the BOD input in each of the final product subcategories and all of the other subcategories with intermediate products in Part 6 of this memo.

Final Calculated Effluent Limitations			
Parameter & Units	**Daily Maximum**	**Daily Minimum**	**Monthly Average**
BOD_5	159 lbs/day		80 lbs/day
TSS	202 lbs/day		101 lbs/day
pH	9.0 su	6.0 su	

The Department has determined that calculated limits are greater than the limits calculated in the previous permit. Therefore, the limits for BOD_5 and TSS remain the same as in the current permit. If Agropur would like to request an increase to the existing permit limits, an assessment of their effluent data consistent with the requirements of ss. NR 207.04(1)(a) and (c), Wis. Adm. Code, must be provided. This evaluation is on a parameter by parameter basis and includes consideration of operations, maintenance

and temporary upsets. Without a demonstration of need for a higher limit in accordance with s. NR 207.04, Wis. Adm. Code, the current limits should be continued in the reissued permit.

The daily maximum and monthly average concentration limits in the WQBEL memo are also recommended to be included in the reissued permit along with the mass concentrations that are recommended in this TBEL memo.